

## 299-E26-66 (A6659) Log Data Report

### Borehole Information:

<b>Borehole:</b> 299-E26-66 (A6659)			<b>Site:</b> 216-A-24 Crib			
<b>Coordinates (WA St Plane)</b>		<b>GWL<sup>1</sup> (ft):</b> None		<b>GWL Date:</b> 10/27/05		
<b>North (m)</b>	<b>East (m)</b>	<b>Drill Date</b>	<b>Ground Level Elevation (ft)</b>	<b>Total Depth (ft)</b>	<b>Type</b>	
136402.246	575686.343	08/83	645.45	38'	Cable	

### Casing Information:

<b>Casing Type</b>	<b>Stickup (ft)</b>	<b>Outer Diameter (in.)</b>	<b>Inside Diameter (in.)</b>	<b>Thickness (in.)</b>	<b>Top (ft)</b>	<b>Bottom (ft)</b>
Welded Steel	0.35	6 5/8	6 1/8	1/4	0.35	38.0

### Borehole Notes:

Casing diameter and casing stickup measurements were acquired by the logging engineer using a caliper and steel tape. Measurements were rounded to the nearest 1/16 in.

### Logging Equipment Information:

<b>Logging System:</b> Gamma 1E		<b>Type:</b> SGLS (70%) SN: 34TP40587A
<b>Effective Calibration Date:</b> 03/04/05	<b>Calibration Reference:</b> DOE/EM-GJ864-2005	
<b>Logging Procedure:</b> MAC-HGLP 1.6.5, Rev. 0		

### Spectral Gamma Logging System (SGLS) Log Run Information:

<b>Log Run</b>	<b>1</b>	<b>2 Repeat</b>			
Date	10/28/05	10/31/05			
Logging Engineer	McClellan	McClellan			
Start Depth (ft)	36.5	15.5			
Finish Depth (ft)	10.5	0.5			
Count Time (sec)	100	100			
Live/Real	R	R			
Shield (Y/N)	N	N			
MSA Interval (ft)	1.0	1.0			
ft/min	N/A <sup>2</sup>	N/A			
Pre-Verification	AE129CAB	AE130CAB			
Start File	AE129000	AE130000			
Finish File	AE129026	AE130015			
Post-Verification	AE129CAA	AE131CAA			
Depth Return Error (in.)	0.0	0.0			

<b>Log Run</b>	<b>1</b>	<b>2 Repeat</b>			
Comments	No fine gain adjustment.	No fine gain adjustment.			

### **Logging Operation Notes:**

Logging was conducted with a centralizer on the sonde. Logging data acquisition is referenced to the top of casing. A repeat section was collected in this borehole to evaluate system performance.

### **Analysis Notes:**

<b>Analyst:</b>	Pope	<b>Date:</b>	12/06/05	<b>Reference:</b>	GJO-HGLP 1.6.3, Rev. 0
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Pre-run and post-run verifications for the logging system were performed before and after the day's data acquisition. The acceptance criteria were met.

A casing correction for 0.25-in.-thick casing was applied to the log data.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated with an EXCEL worksheet template identified as G1EMar05.xls using efficiency functions and corrections for casing, water, and dead time as determined from annual calibrations. No corrections for dead time or water were necessary.

### **Results and Interpretations:**

<sup>137</sup>Cs was the man-made radionuclide detected in this borehole. <sup>137</sup>Cs was detected continuously from 0.5 ft (below top of casing) to 18.5 ft, and discontinuously to the bottom of the borehole. The maximum concentration was measured at approximately 80 pCi/g at 12.5 ft.

The repeat section indicates good agreement of the naturally occurring KUT and <sup>137</sup>Cs concentrations.

### **List of Plots:**

Man-Made Radionuclides  
Natural Gamma Logs  
Combination Plot  
Total Gamma and Dead Time  
Repeat Section of Man-Made Radionuclides  
Repeat Section of Natural Gamma Logs

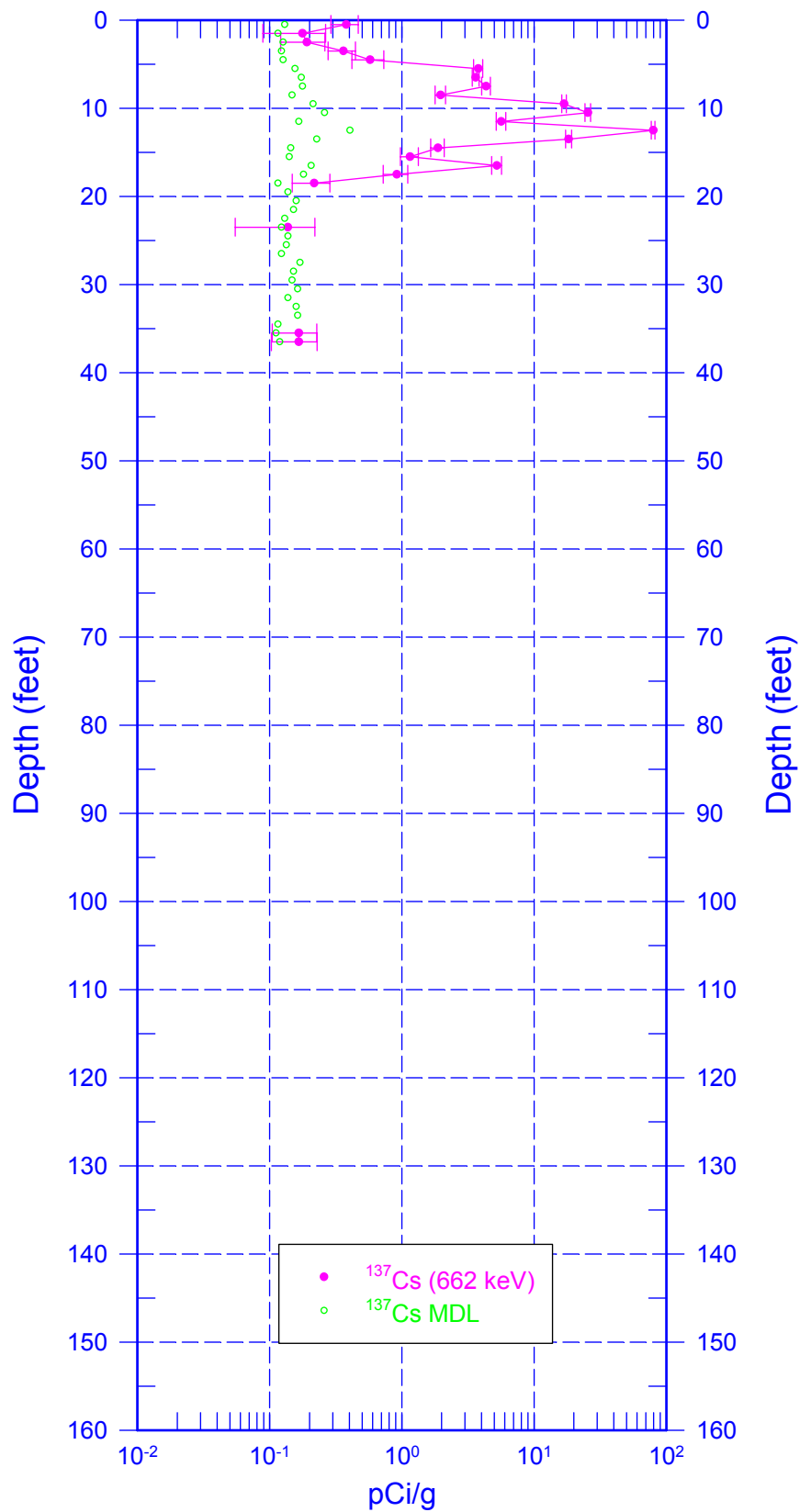
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<sup>1</sup> GWL – groundwater level

<sup>2</sup> N/A – not applicable

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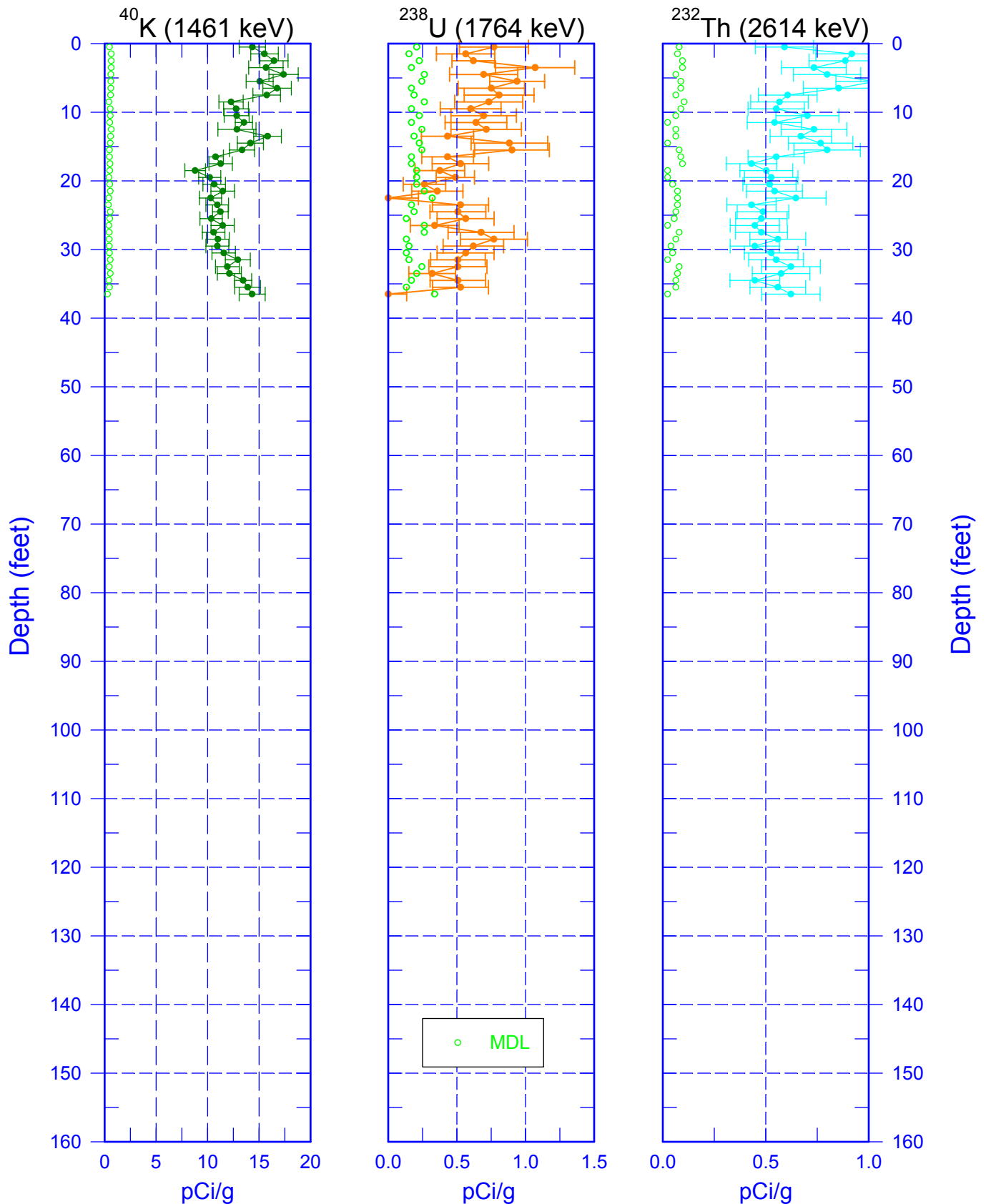
## Man-Made Radionuclides



Zero Reference - Top of Casing

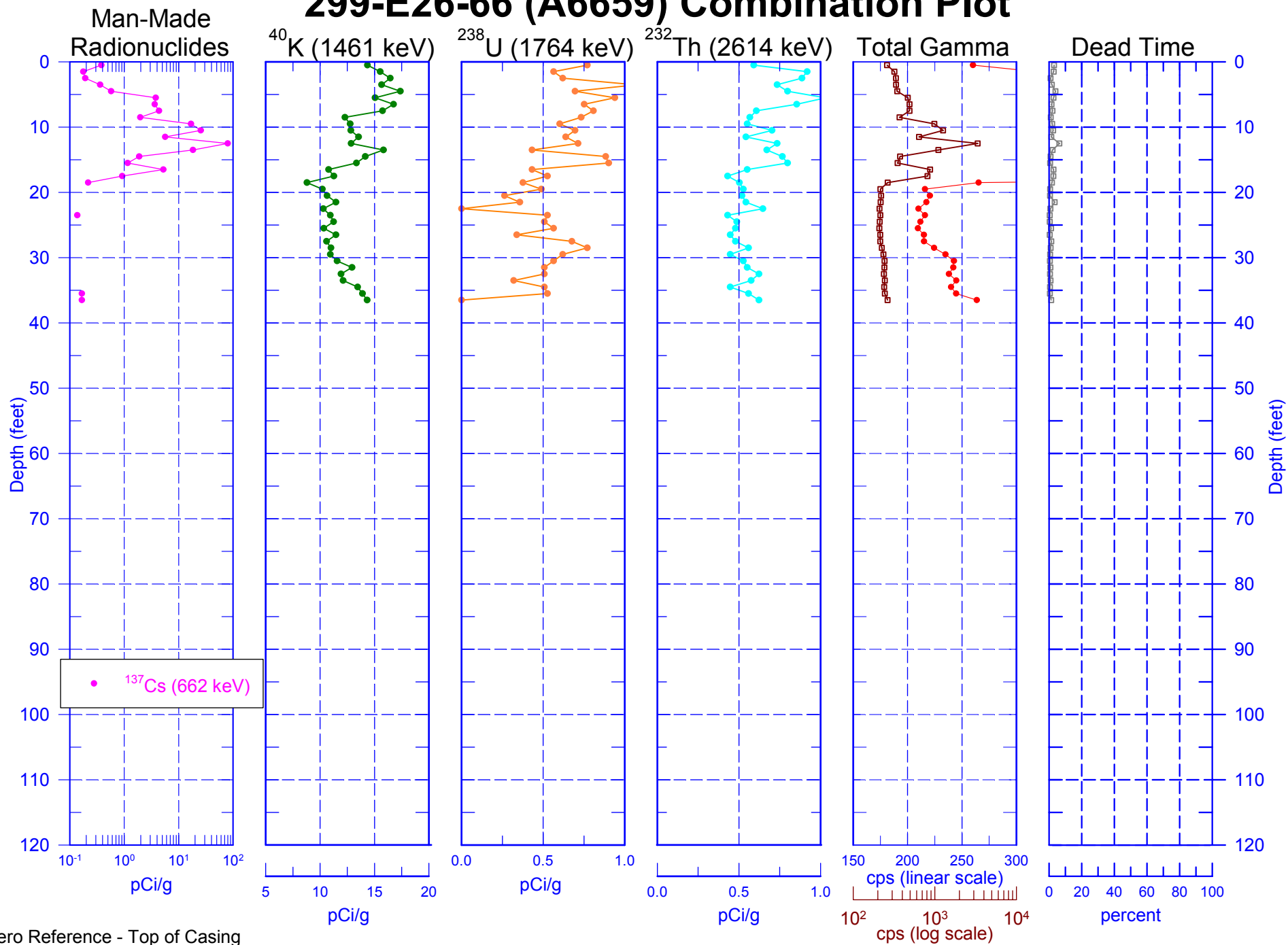
# 299-E26-66 (A6659)

## Natural Gamma Logs



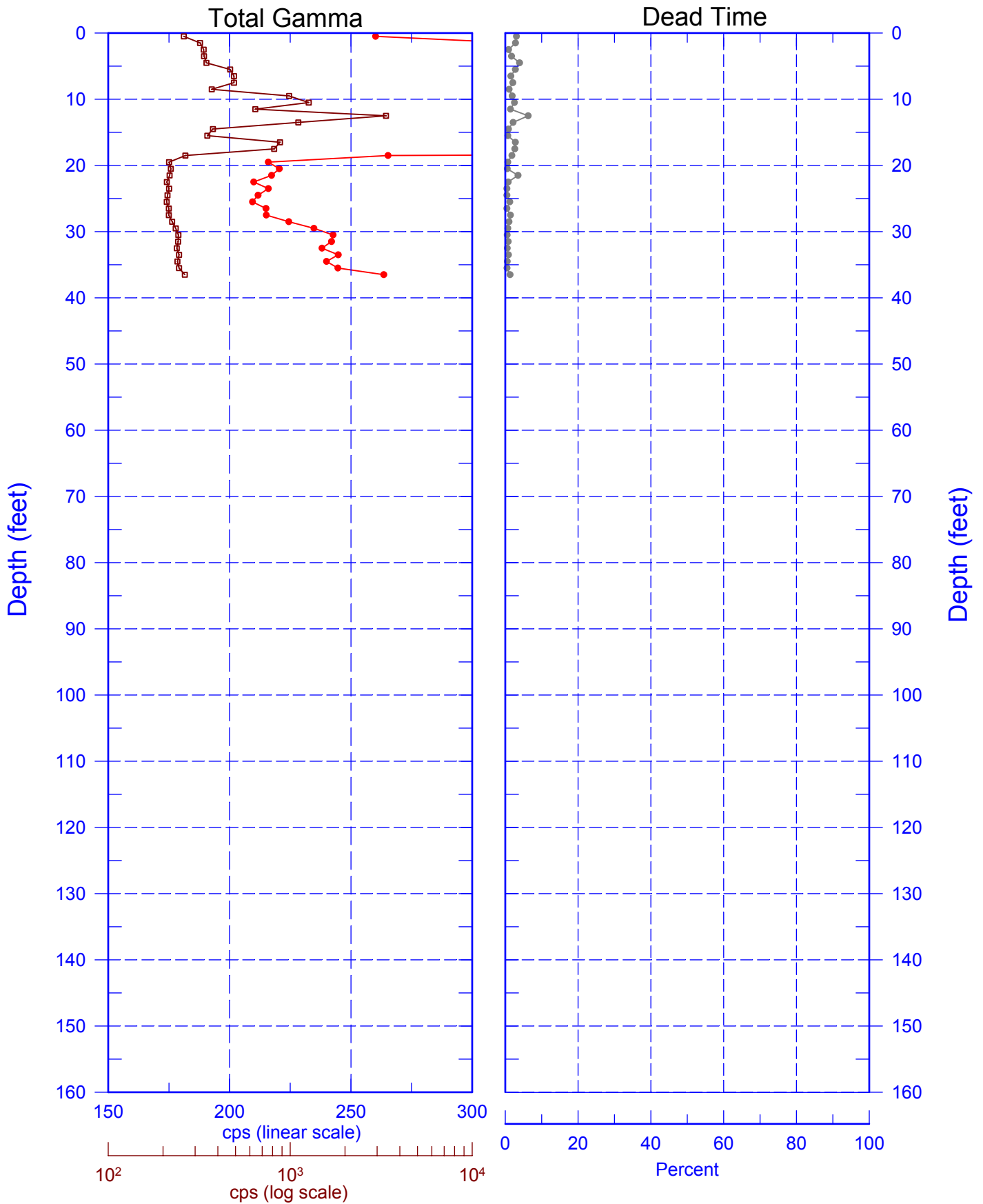
Zero Reference = Top of Casing

# 299-E26-66 (A6659) Combination Plot



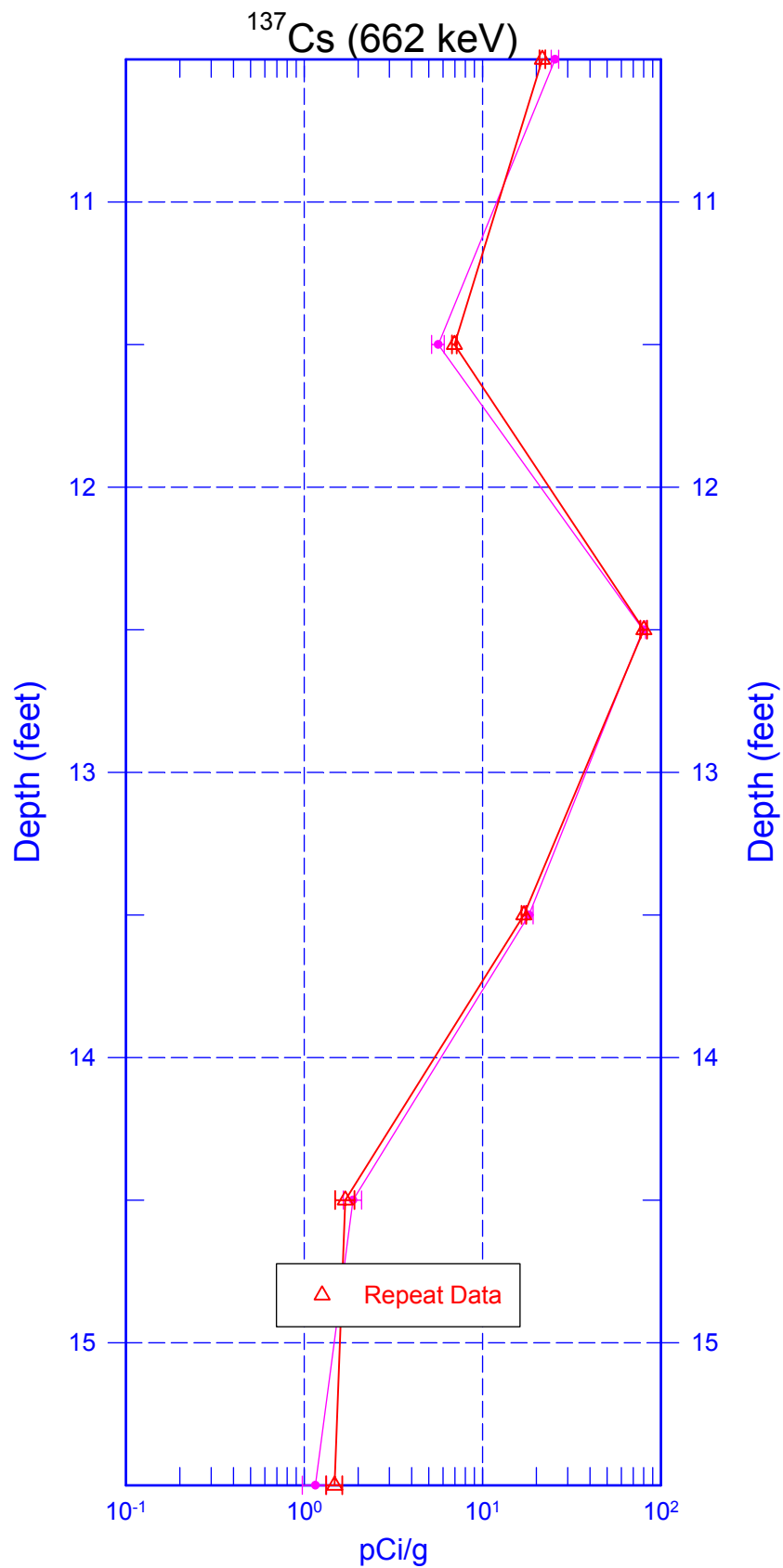
# 299-E26-66 (A6659)

## Total Gamma & Dead Time



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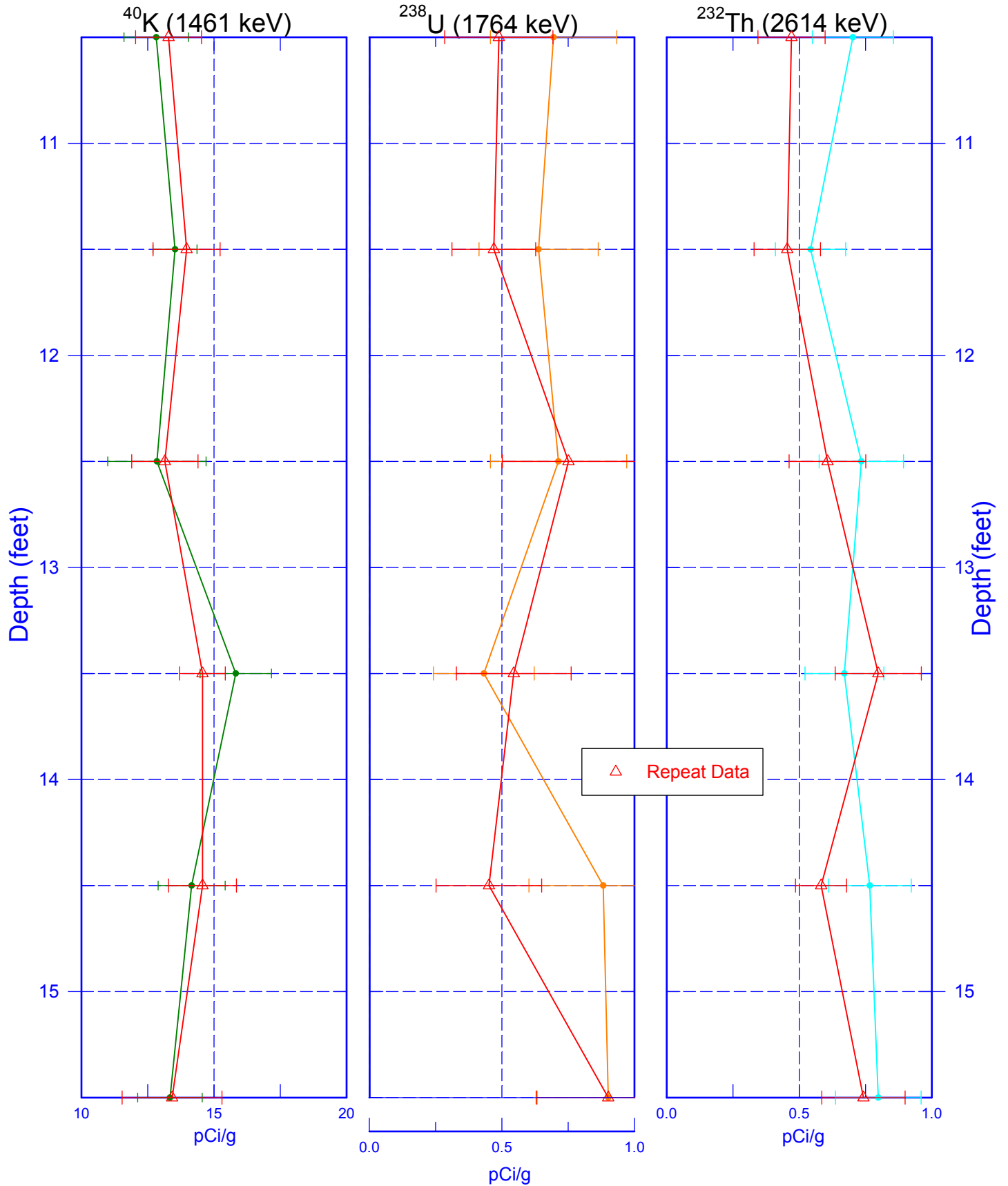
## Repeat of Man-Made Radionuclides



Zero Reference - Top of Casing

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## Repeat Section of Natural Gamma Logs



Zero Reference - Top of Casing